WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Monday, November 29, 2004

Hide?	Set Name	Query	Hit Count
		DB=USPT; PLUR=YES; OP=AND	
☐	L1	bassler.in. and analog.clm.	0
☐	L2	bassler.in.	135
☐	L3	L2 and analog.clm.	0
☐	L4	L2 and autoinducer.clm.	2
☐	L5	L2 and bonnie.in.	5

END OF SEARCH HISTORY

While the inciting event in development of a pressure sore is compression of the skin by an external force such as a mattress, wheelchair pad, or bed rail, traumatic forces such as shear forces and friction can contribute. These forces cause microcirculatory occlusion as pressures rise above capillary filling pressure, resulting in ischemia. Ischemia leads to inflammation and tissue anoxia. Tissue anoxia leads to cell death, necrosis, and ulceration. Pressure on the skin can be greatest over a bony prominence.

It is generally accepted that there are four stages in the development of a pressure sore. In stage I the skin is intact but has signs of impending ulceration such as blanchable erythema (redness) of the skin which can resolve within 24 hours of relief of the pressure. Blanchable means that upon pressing the area of skin redness the redness can be decreased (blanched therefore). Stage I can also include non-blanchable skin erythema, which may be the first outward sign of tissue destruction. Alternately, the skin can appear white from ischemia.

In stage II there is a lesion which appears as a partial loss of skin involving the epidermis and possibly the dermis. This lesion can be present as an abrasion, blister, or superficial ulceration. In stage III there is a full-thickness loss of skin with extension into subcutaneous tissue but not through the underlying fascia. The stage III lesion presents as a crater with or without undermining of adjacent tissue.

Finally, in stage IV there is a full-thickness loss of skin and subcutaneous tissue and extension into muscle, bone, tendon, or joint capsule. Osteomyelitis with bone destruction, dislocations, or pathologic fractures can also be present. Sinus tracts and severe undermining can also be present.

My invention also encompasses a method for preventing development or for preventing further development of a pressure sore by local administration of a botulinum neurotoxin to (or to the vicinity of) a pressure point. A pressure point is merely a dermal area upon which a patient exerts pressure for a prolonged period (i.e. for 2 hours or more hours). Thus an immobilized patient typically will typically have pressure points on his buttocks, shoulders and heels.

The neurotoxin can be locally administered in an amount of between about 10^{-3} units/kg of patient weight and about 35 units/kg of patient weight. Preferably, the neurotoxin is locally administered in an amount of between about 10^{-2} U/kg and about 25 U/kg of patient weight. More preferably, the neurotoxin is administered in an amount of between about 10^{-1} U/kg and about 15 U/kg. In a particularly preferred method within the scope of the present invention, the neurotoxin is locally administered in an amount of between about 1 U/kg and about 10 U/kg. In a clinical setting it can be advantageous to inject from 1 U to 3000 U of a neurotoxin, such as botulinum toxin type A or B, to a pressure sore location by topical application or by subdermal administration, to effectively treat the pressure sore.

A suitable neurotoxin for use in the practice of the present invention can be made by a Clostridial bacterium, such as Clostridium botulinum, Clostridium butyricum or Clostridium beratti. The neurotoxin use can be a modified neurotoxin, that is a neurotoxin has had at least one of its amino acids deleted, modified or replaced, as compared to a native neurotoxin. Additionally, the neurotoxin can be recombinantly made produced neurotoxin or a derivative or fragment of a recombinant made neurotoxin. The neurotoxin can be a botulinum toxin, such as one of the botulinum toxin serotypes A, B, C_1, D, E, F or G. A preferred botulinum

toxin to use in the practice of the present invention is botulinum toxin type A.

A method according to my invention can be carried out by administration of a Clostridial toxin to a patient with, or who is predisposed to developing, a pressure sore. The Clostridial toxin used is preferably a botulinum toxin (as either a complex or as a pure [i.e. about 150 kDa molecule], such as a botulinum neurotoxin A, B, C1, D, E, F or G. Administration of the Clostridial toxin can be by a transdermal route (i.e. by application of a Clostridial toxin in a cream, patch or lotion vehicle), subdermal route (i.e. subcutaneous or intramuscular) or intradermal route of administration.

Except when treating a pressure sore related to contractures or spasticity, the dose of a Clostridial toxin used according to the present invention is less than the amount of toxin that would be used to paralyze a muscle, since the intent of a method according to the present invention is not to paralyze a muscle but to treat a pressure sore.

The following definitions apply herein:

"About" means approximately or nearly and in the context of a numerical value or range set forth herein means ±10% of the numerical value or range recited or claimed.

"Alleviating" means a reduction in the occurrence of a pressure sore symptom. Thus, alleviating includes some reduction, significant reduction, near total reduction, and total reduction of a pressure sore symptom. An alleviating effect may not appear clinically for between 1 to 7 days after administration of a Clostridial neurotoxin to a patient.

"Botulinum toxin" means a botulinum neurotoxin as either pure toxin (i.e. about 150 kDa weight molecule) or as a complex (i.e. about 300 to about 900 kDa weight complex comprising a neurotoxin molecule and one or more associated non-toxic molecules), and excludes botulinum toxins which are not neurotoxins such as the cytotoxic botulinum toxins C2 and C3, but includes recombinantly made, hybrid, modified, and chimeric botulinum toxins.

"Local administration" or "locally administering" means administration (i.e. by a subcutaneous, intramuscular, subdermal or transdermal route) of a pharmaceutical agent to or to the vicinity of a dermal or subdermal location of a patient at the site of or in the vicinity of the site of a target skin area to be treated.

"Treating" means to alleviate (or to eliminate) at least one symptom of a pressure sore, either temporarily or permanently.

The Clostridial neurotoxin is administered in a therapeutically effective amount to alleviate a symptom of a pressure sore. A suitable Clostridial neurotoxin may be a neurotoxin made by a bacterium, for example, the neurotoxin may be made from a *Clostridium botulinum*, *Clostridium butyricum*, or *Clostridium beratti*. In certain embodiments of the invention, the pressure sore can be treated by applying to (topical) or into (intra or transdermal) the skin of a patient a botulinum toxin. The botulinum toxin can be a botulinum toxin type A, type B, type C1, type D, type E, type F, or type G. The pressure sore alleviating effects of the botulinum toxin may persist for between about 2 weeks (i.e. upon administration of a short acting botulinum toxin, such as a botulinum toxin type E or F) and 5 years (i.e. upon implantation of a controlled release botulinum toxin implant). The botulinum neurotoxin can be a recombinantly made botulinum neurotoxins, such as botulinum toxins produced by an E. coli bacterium. In addition or alternatively, the

reduced in size by from about 20% to 100%.

DESCRIPTION

The present invention is based upon the discovery that a pressure sore can be treated by local administration of a therapeutically effective amount of a Clostridial neurotoxin, such as a botulinum neurotoxin. The botulinum neurotoxin (such as a botulinum neurotoxin serotype A, B, C_1 D, E, F or G) can be administered by topical application or subdermal injection at and/or in the vicinity of a pressure sore of a patient. Alternately, the botulinum toxin can be administered to an intradermal or subdermal neuron to thereby downregulate, inhibit or suppress a neuronally mediated or influenced pressure sore.

Without wishing to be bound by theory, several mechanisms for the efficacy of treatment of pressure sores by my invention disclosed herein can be set forth. Firstly, a botulinum toxin can act to reduce the pain and inflammation symptoms of a pressure sore. This can occur due to the ability of a botulinum toxin to effect release of pain inducing neuropeptides such as substance-P, VIP and cGRP, which are involved in pain signal transmission.

Thus, application of botulinum toxin to the ulcerative area of a pressure sore can decrease or inhibit the inflammation and pain which accompanies a pressure sore. The inflammation can be due to the shearing and trauma from the pressure applied which results in the formation of microcirculatory occlusions as the applied pressure rises above capillary filling pressure. When this occurs ischemia, inflammation and tissue anoxia results. Tissue anoxia leads to cell death, necrosis, and ulceration.

First Hit Fwd Refs Previous Doc Next Doc Go to Doc#

Generate Collection Print

L2: Entry 1 of 15 File: USPT Nov 2, 2004

DOCUMENT-IDENTIFIER: US 6810543 B2
TITLE: Orthopedic body segment support

Brief Summary Text (18):
It is another object, advantage, and feature of the invention to provide increased blood flow throughout the entire body decreasing the possibility of bed sores and other deleterious effects of ischemia and pressure to regions of the body including the head, shoulders, neck, thoracic, lumbar, sacral, gluteal, thighs, calves, feet, arms and hands.

Previous Doc Next Doc Go to Doc#

L2: Entry 4 of 15 File: USPT Nov 20, 2001

DOCUMENT-IDENTIFIER: US 6318372 B1
TITLE: Vacuum-activated veterinary surgical positioning system

Brief Summary Text (6):
A support and restraining system must, of course, primarily maintain the animal securely in any desired position. It should conserve the animal's body heat, support the animal's head and neck, conform gently to the animal's body contours, and prevent pressure sores. The system desirably should be usable by the veterinary physician in a variety of locations--in the field, in a veterinary hospital, and in the veterinary office. The system should be able to achieve emergency fracture stabilization. Practically, the system should able to be easily cleaned.

Brief Summary Text (10):
Adequate and proper support for the animal's head and neck is of particular importance. It should support the head and neck in a neutral position to prevent nerve injury to the neck and fore limbs. It should support the head to prevent pressure sores on the bony portion of the head during long surgical procedures. It should support the head and neck to prevent dislodgment of the endotracheal tube utilized during general anesthesia. It should provide stabilization of the head and neck during emergency transport to prevent further neurological injury. It should prevent heat loss during general anesthesia since the majority of the animal's body heat is transmitted through the head. It should allow for secure positioning of the head and neck during maxillo-facial, oral, nasal, cranial, auricular, cervical and opthalmological surgery. It must also allow for optimal positioning of the oropharynx to prevent post-operative aspiration of gastric contents.

Detailed Description Text (3):
As shown in the drawings, the bag 10 comprises top and bottom opposing walls 12, 14 radio frequency welded together at their upper, lower and lateral edges 16, 18, 20 for strength and air tightness. The walls 12, 14 are extended generally in their center at their upper edges 16 to provide a central extension 22 for the animal's head and neck. The central extension 22 is sufficient to support the head and neck in a neutral position to prevent nerve injury to the neck and fore limbs. The extension 22 supports the head to prevent pressure sores on the bony portion of the head during long surgical procedures. The extension 22 supports the head and neck to to prevent dislodgment of the endotracheal tube utilized during general anesthesia. The extension 22 further provides stabilization of the head and neck during emergency transport to prevent neurological injury.

WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Monday, November 29, 2004

Hide?	Set Name	Query	Hit Count
	DB=USPT; PLUR=YES; OP=AND		
☐	L1	gassner.in. and skin.clm.	3
	DB=PGPB,USPT; PLUR=YES; OP=AND		
☐	L2	donovan.in. and microtrauma	0
☐	L3	donovan.in. and micro-trauma	0
☐	L4	donovan.in. and botox	18
☐	L5	L4 and skin	12
☐	L6	L4 and skin.clm.	1

END OF SEARCH HISTORY

First Hit

End of Result Set

L6: Entry 1 of 1 File: PGPB Jan 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040009180
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040009180 A1

TITLE: Transdermal botulinum toxin compositions

PUBLICATION-DATE: January 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Donovan, Stephen	Capistrano Beach	CA	US	

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Allergan, Inc.				02

APPL-NO: 10/ 194805 [PALM]
DATE FILED: July 11, 2002

INT-CL: [07] A61 K 39/00, A61 K 39/38, A61 K 9/70, A61 F 13/00

US-CL-PUBLISHED: 424/184.1
US-CL-CURRENT: 424/184.1

ABSTRACT:

Pharmaceutical compositions for transdermal administration of neurotoxins to a patient include a neurotoxin, such as a botulinum toxin, and an enhancing agent that facilitates absorption of the neurotoxin through the skin of the patient and does not eliminate the bioactivity associated with the neurotoxin. The pharmaceutical compositions are topically applied on a patient, and may be provided in a transdermal patch.

Generate Collection Print

Search Results - Record(s) 1 through 1 of 1 returned.

☐ 1. 20040009180. 11 Jul 02. 15 Jan 04. Transdermal botulinum toxin compositions. Donovan, Stephen. 424/184.1; A61K039/00 A61K039/38 A61K009/70 A61F013/00.

Generate Collection Print

Terms	Documents
L4 and skin.clm.	1

Prev Page Next Page Go to Doc#